

Please amend the paragraph beginning on page 5, line 6, to read as follows:

A3 --Each well-defined design objective is one performance attribute. The set of performance attributes, together with the expected satisfaction limits constitutes a specification. Denoting the i^{th} performance attribute as y_i , a typical specification can be expressed as $LSL_i \leq y_i \leq USL_i$ where LSL_i and USL_i denote the lower and upper specification limits for performance attribute y_i . Without loss of generality, a one-sided specification can be formed by substituting $-\infty$ or $+\infty$ for the unspecified limits.--

Please amend the paragraph beginning on page 5, line 12, to read as follows:

A4 --Suppose $y_i = f_i(X)$, where X is the design vector, $X = \{x_1, x_2, \dots, x_j, \dots, x_n\}$ and $LCL_j \leq x_j \leq UCL_j$. By holding design parameters other than x_j constant, the sensitivity $y_i = f_i(x_1^c, x_2^c, \dots, x_j, \dots, x_n^c)$ can be plotted, as shown in FIG. 2. To ease the computational burden, the function is linearized to acquire the analytical feasible decision space and performance space. However, the method and system of the invention are equally applicable for non-linear functions.--

Please amend the paragraph beginning on page 7, line 9, to read as follows:

A5 --Referring now to FIG. 3, the algorithm works in parallel for each decision graph in the decision space. Because each specification h_s intersects the convex decision space at most twice, m specifications cost no more than $2m$ intersection calculations. Therefore, it requires $O(m)$ time to solve the feasible region in the decision graph of FIG. 7. --

The paragraph beginning on page 8, line 27, is amended as follows:

A6 --The convex property of the linear problem significantly simplifies the solution of the feasible space. Based on the convexity, the decision space and the performance space are the convex hulls of the same extreme points in two different spaces. Therefore, the first critical step is to find these extreme points. This can be done by solving the system equations composed of n design constraints. Every combination of n constraints from the specification and the parameter limits corresponds to a potential extreme point. The confirmation of this intersection point comes from the feasibility validation of the solution. Any valid intersection point of n constraints is one extreme point of the feasible design space. After all extreme points are acquired, a convex hull algorithm can be applied to each decision graph in the decision space and each performance graph in the performance space. Alternatively, the extreme points can be traced to find the facet of the feasible polytope. Each facet represents one specification or parameter limit. The linear system of equations $F \cdot X = Y$ can be solved by LU decomposition. Given the fact that there are 2^n system equations sharing the same coefficient matrix F but different vectors Y , the LU decomposition, shown in FIG. 5A, reduces the computation time.--